

Loperamide abuse and cardiotoxicity

To the Editor:

With increasing restrictions and safety protocols implemented in prescribing opioids, there has been an increased incidence of recreational abuse of over-the-counter medications, including loperamide. Loperamide is a peripherally-acting μ -opioid receptor agonist in the gastrointestinal tract which, if taken at high doses, can cross the blood-brain barrier to produce euphoria and analgesia effects.

1. Case description

A 36-year-old male with past medical history of alcohol and polysubstance abuse presented with complaints of leg swelling and dyspnea. On examination he was lethargic with frequent periods of apnea and profound hypoxia (oxygen saturation of 72% on room air). The patient received IV naloxone with improvement in level of consciousness and respiratory rate. EKG demonstrated a prolonged QTc and QRS interval of 592 and 138, respectively. The patient denied any illicit drug use, however admitted to recreational abuse of diphenhydramine and loperamide. Poison control recommended bicarbonate and potassium administration to prevent cardiac arrhythmia. The patient was monitored overnight in the hospital with serial EKGs. Over the next 24 hours his abnormalities on EKG improved as well as his hypoxia. He was discharged home shortly thereafter.

2. Discussion

Loperamide, an over-the-counter antidiarrheal agent, has seen a steady rise in recreational abuse for its opioid-like effects [1,2]. First reported on web-based forums in 2005, the USA has seen an increase in abuse over the last decade [2], doubling from 2013 to 2015 [1]. Recreational abusers report taking doses up to 400 mg/day [1]. A review of the California Poison Control database demonstrated 265 reported cases of loperamide abuse between 2002 and 2015; with nine cases resulting in major events including cardiotoxicity, central nervous system depression, respiratory depression, and three cases of death. Cardiotoxicity often presents with prolonged QTc

or QRS, ventricular tachycardia, Torsades de Pointes, or a Brugada-like syndrome. Milder side effects include the risk for paralytic ileus. Although the mechanism for cardiotoxicity is unknown, animal model studies have demonstrated calcium channel blockade [3]. Treatment is aimed at electrophysiology stabilization with sodium bicarbonate, amiodarone, or lidocaine. Additionally, there have been reported cases of reversal of respiratory and CNS depression with naloxone [1].

3. Conclusion

As access to controlled substances has been restricted, providers need to be conscientious of recreational abuse of over-the-counter substances like loperamide. Despite its innocuous nature at therapeutic doses, loperamide poses significant dangers at high doses including cardiotoxicity, CNS depression, and respiratory depression.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

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